

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 77-26

WASTE DISCHARGE AND WASTEWATER RECLAMATION
REQUIREMENTS FOR:

VETERANS ADMINISTRATION HOSPITAL,
LIVERMORE, AND CHARLES F. CROHARE
ALAMEDA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board) finds that:

1. Veterans Administration Hospital, Livermore, and Mr. Charles F. Crohare, hereinafter called the discharger and the user respectively, submitted a report of waste discharge dated June 6, 1975.
2. The Veterans Administration Hospital presently generates an average of 125,000 gallons per day of sewage. Treatment consists of primary sedimentation, biological treatment using a trickling filter, disinfection, and discharge to percolation ponds located northeast of the treatment facilities.
3. Mr. Crohare has applied for use of the effluent to spray irrigate seed crops (Sudan or mixed grass) on his 35 acre property located immediately north of the hospital property as shown in Attachment A, which is made part of this Order.
4. The Board adopted a Water Quality Control Plan for San Francisco Bay Basin in April 1975. The water quality objectives for reclaimed wastewater, as set forth in the Basin Plan, specify those limits prescribed in Title 17, Section 8025 through 8050, California Administrative Code. These objectives have been superseded by Title 22, Sections 60301 - 60357, California Administrative Code.
5. The project consists of an alteration of effluent discharge point from the percolation ponds to partial reclamation for spray irrigation of fodder crops. The wastewater reclamation requirements are in conformance with the statewide reclamation criteria established by the State Department of Health and in conformance with the Policy and Action Plan for Water Reclamation adopted by the State Board.
6. The Regional Board finds that there will not be an adverse change in the environment. The project meets the criteria for a class IV exemption pursuant to Section 15104 of the California Administrative Code (State Water Resources Control Board).
7. The beneficial uses of groundwaters in the Livermore Valley as set forth in the Basin Plan include:
 - Domestic supply
 - Agricultural supply for irrigation and stock watering
8. The Board has notified the discharger, the user, and interested agencies and persons of its intent to prescribe waste discharge requirements for the proposed discharge.

9. The Board in a public meeting heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the following shall be complied with:

A. Percolation Pond Specifications

The Veterans Administration Hospital, Livermore, shall comply with the following specifications for discharge to percolation ponds:

1. The treatment or disposal of waste shall not create a nuisance as defined in Section 13050(m) of the California Water Code.
2. The discharge of the waste shall not degrade the quality of any groundwater.
3. The discharge of waste shall not cause seepage to be present any place outside the percolation ponds.
4. The waste as discharged to the percolation ponds shall be at all times an adequately disinfected, oxidized wastewater and shall meet the following quality limits at all times:
 - a. 5-day 20°C BOD 40.0 mg/l, maximum
 - b. Dissolved oxygen 2.0 mg/l, minimum
 - c. Dissolved sulfide 0.1 mg/l, maximum
 - d. Coliform Organisms Median MPN shall not exceed 23 coliform organisms per 100 milliliters of sample. The median value will be determined from the bacteriological results of the last seven (7) analyses.
5. The percolation ponds shall be adequately protected from erosion and flooding having a predicted frequency of once in 100 years.

B. Reclaimed Wastewater Use Specifications

The Veterans Administration Hospital, Livermore, and Mr. Charles F. Crohare shall comply with the following for treatment of wastewater and application to land:

1. The treatment distribution or reuse of reclaimed water shall not create a nuisance as defined in Section 13050(m) of the California Water Code.
2. The use of reclaimed water shall not cause degradation of groundwater suitable for domestic use or cause an increase in any quality parameter that would make groundwater unsuitable for irrigation use.
3. The reclaimed water shall be at all times an adequately disinfected, oxidized water and shall meet the following quality limits at all times:

- a. 5-day BOD 40.0 mg/l, maximum
 - b. Dissolved Oxygen 2.0 mg/l, minimum
 - c. Dissolved Sulfide 0.1 mg/l, maximum
 - d. Coliform Organisms Median MPN shall not exceed two hundred and forty (240) coliform organisms per 100 milliliters of sample at some point in the treatment process. The median value will be determined from the bacteriological results of the last seven (7) analyses.
4. The property boundary and all equipment, including pumps, piping and valves, etc., which may at any time contain waste shall be adequately and clearly identified with warning signs and user shall make all necessary provisions, in addition, to inform the public that the liquid contained is sewage and is unfit for human consumption.
 5. Discharge of wastewater from the treatment plant, other than designated spray area as shown in the Attachment "A" is prohibited without written authorization from the Executive Officer.
 6. Discharge of wastewater is prohibited during rainfall or at times when soils are saturated.
 7. No reclaimed water used for land irrigation shall be allowed to escape from the property via surface flow, percolation, or airborne spray.
 8. Dairy cattle are prohibited from grazing on the areas irrigated with reclaimed wastewater.
 9. Discharge of wastewater to the designated spray area shall cease immediately when any of the above specifications or prohibitions are violated.

C. Provisions

1. Compliance with specification A.4.d. of this Order shall be demonstrated no later than June 1, 1977. All other parts of this Order shall be complied with immediately upon its adoption.
2. The discharger and the user shall file with this Board's Executive Officer a report of any proposed change in the location of spray area or quantity of this waste discharge within 60 days of the proposed change.
3. The discharger and the user shall file with the Regional Board technical reports on self-monitoring work performed according to detailed specifications as directed by the Executive Officer.
4. The discharger and the user shall permit the Regional Board or its authorized representative:

- a. Entry upon premises in which an effluent source is located or in which any required records are kept.
 - b. Access to copy any records required to be kept under terms and conditions of this order.
 - c. Inspection of any monitoring equipment or method required by this order.
 - d. Sampling of any discharge.
5. The discharger shall maintain in good working order and operate as efficiently as possible any facility or control system installed to achieve compliance with the water reclamation requirements.
 6. The discharger and the user shall maintain a copy of this Order at the site so as to be available at all times to personnel operating waste treatment and disposal facilities.
 7. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the discharger and the user, the discharger and user shall notify the succeeding owner or operator of the existence of this Order by a letter, a copy of which shall be forwarded to this Board.
 8. The following are hereby rescinded: Resolution No. 39, adopted December 21, 1950; and Resolution No. 446, adopted February 21, 1963.

I, Fred H. Dierker, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on March 15, 1977.

FRED H. DIERKER
Executive Officer

Attachment:
Map

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

STEWART B. GROSS, M.D., Agency Director



AGENCY HEADQUARTERS

499 Fifth Street

Oakland, California 94607

Telephone number (415) 874-6895

March 14, 1977

California Regional Water Quality Control Board
San Francisco Bay Region
1111 Jackson Street
Oakland, CA 94607

Attention: Mr. Fred H. Dierker,
Executive Officer

RE: Tentative Order for
Veterans Administration
Hospital, Livermore, and
Charles F. Crohare

Dear Mr. Dierker:

For the past six weeks, our staff and members of Zone 7 of the County Flood Control District's staff have had several discussions and meetings concerning this tentative order with your staff, including one on-site visit. There are several issues and points of clarification that yet need to be resolved.

- 1) A surface water diversion barrier or ditch should be constructed along the upper portions of the spray disposal site.
- 2) A boundary of fifty feet, minimum, should be maintained between the area of disposal and the small bluff located immediately westerly of Arroyo Valle Creek, and the Veteran and Sycamore Park areas.
- 3) The fence separating the spray disposal area from the adjacent creek and park area should be visibly posted approximately every one hundred feet. Signs should prohibit trespassing with a warning that the area is sprayed with sewage wastes and that entry may be dangerous to the trespasser's health.
- 4) A sound monitoring program is essential to the proper operation of this disposal facility. A sound program includes wells to monitor groundwater adjacent to percolation and storage pond areas, the spray field, and in an unaffected area. The frequency should be adequate to note groundwater problems as they develop.
- 5) This Agency is opposed to the continued use of the hospital's percolation ponds.

Mr. Fred H. Dierker,
Executive Officer

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March 14, 1977

These ponds should be sealed to prevent further percolation. These ponds are located within close proximity to Arroyo Valle Creek and Veterans and Sycamore Parks. The entire creek, starting above the hospital and on down to below the hospital, is a designated park area. Also, the entire area under which the ponds and disposal areas are located is known for its high percolation rates, and the underground is a usable groundwater basin.

Evidence shows that the wastes in the percolation ponds reaches upper groundwater and percolates onto adjacent lands which are not owned by the discharger. Our concern is that the parks' creekwaters and the area's groundwater be protected from contamination.

In January 1977, Zone 7 released a report titled "Nitrate Occurrences in the Livermore Valley Groundwater Basin." This report documents the fact that virtually every significant waste disposal site which is located over usable groundwater in Livermore Valley has substantially contributed to the nitrate degradation of that water body.

It is our contention that (i) the existing percolation ponds are already in violation with Sections' A.2 and A.3 of the Tentative Order and will be so until sealed, and that (ii) large scale percolation as a method of waste disposal is not appropriate in subsurface gravel deposits known to contain quantities of usable groundwater nor in the Livermore Valley.

We would appreciate your favorable consideration of these issues.

Very truly yours,



Gerald H. Winn, Director
Division of Environmental Health

GHW:mr

cc: J. Killingstad, Zone 7
R. McMillan, SDH

TO
LIVERMORE

DRY CREEK



ARROYO VALLE CREEK

ARROYO ROAD

C. F. CROWARE LAND

PROPERTY LINE

SPRAY IRRIGATION
AREA

STORAGE
POND

WASTEWATER TREATMENT
PLANT

PERCOLATION
PONDS

U.S. VETERANS ADMINISTRATIONS
HOSPITAL

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

VETERANS ADMINISTRATION- AND C.F.CRO ARE
PERCOLATION AND LAND IRRIGATION,
LIVERMORE, CALIFORNIA.

ATTACHMENT A ORDER NO.

DRAWN BY: WMM DATE: 10/17/66 DRWG. NO.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

Veterans Administration Hospital, Livermore

and Mr. C. F. Crohare

Alameda County

ORDER NO. 77-26

CONSISTS OF

PART A, dated 7/74

AND

PART B, dated June 21, 1977

PART B

DESCRIPTION OF SAMPLING STATIONS AND SCHEDULE OF SAMPLING, ANALYSES, AND OBSERVATIONS

Analysis, observations, and examinations shall be performed according to the specifications shown in Table I. A sketch showing the locations of all sampling stations shall be submitted with each monthly report.

I. DESCRIPTION OF SAMPLING STATIONS

A. DISCHARGE TO PERCOLATION PONDS

<u>Station</u>	<u>Description</u>
E-1	At any point in the conveyance line which transports wastewater to the percolation ponds.

B. DISCHARGE TO LAND

<u>Station</u>	<u>Description</u>
E-2	At any point in the reclaimed wastewater conveyance line between the treatment facilities and the point of discharge to land.

C. IMPOUNDMENT FACILITIES

<u>Station</u>	<u>Description</u>
L-1 thru L-'n'	Located along the perimeter levees of the percolation ponds at equidistant intervals not to exceed 50 feet.
R-1 thru R-'n'	At some point on the periphery of the pond containing reclaimed wastewaters, at equidistant intervals not to exceed 100 feet.

(A sketch showing the locations of these stations should accompany each report.)

D. LAND OBSERVATIONS

<u>Station</u>	<u>Description</u>
P-1 thru P-'n'	Located along the periphery of the irrigation area at equidistant intervals, not to exceed 500 feet.

(A sketch showing the location of these stations should accompany each report.)

E. Groundwater Monitoring

<u>Station</u>	<u>Description</u>
G-1	A groundwater monitoring well located within 300 feet and west of percolation ponds. The depth shall be sufficient to determine the level of subsurface water nearest to the ground surface.
G-2	Existing well No. 35/2E-33KI
G-3	A groundwater monitoring well located north of the storage pond and within 100 feet from the toe of the pond. The depth shall be sufficient to determine the level of subsurface water nearest to the ground surface.
G-4	A groundwater monitoring well located between Arroyo del Valle and the spray irrigation area at the northerly section of the property. The depth shall be sufficient to determine the level of subsurface water nearest to the groundwater.
Note: 1	All wells shall be constructed according to the Alameda County Flood Control and Water Conservation District standards.
2	All "G" stations shall be reviewed after one year of analyses.
3	A well drilling log shall be submitted for each sampling well established per this monitoring program.

II. SCHEDULE OF SAMPLING AND ANALYSIS

- A. The schedule of sampling and analysis shall be that given as Table I, and submitted bimonthly except groundwater sampling results.
- B. The results of groundwater sampling will be reported annually by May 15 for the previous calendar year.
- C. A chronological log for each month shall be maintained of the treated wastewater as follow:
 - 1) Number of days and a quantity of treated wastewater used for irrigation.
 - 2) Number of days and quantity of wastewater discharged into percolation ponds.
 - 3) Quantity of wastewater in the ponds at end of each month.
- D. Submit the above information bimonthly.

III. Modifications to Part A, dated 7/74:

A. The following Sections of Part A are excluded:

C.3, C.4, C.5.a, C.5.c, C.5.e, D.1, D.3, D.4, E.2, E.4,
F.1, F.3.b, F.3.d, F.3.e, F.3.f, F.3.g.

I, Fred H. Dierker, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 77-26.
2. Has been ordered by the Executive Officer on June 21, 1977, and becomes effective immediately.
3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.

In the event that the discharger chooses to monitor groundwater stations by obtaining the data generated by the cooperative monitoring program of Zone 7 of the Alameda County Flood Control and Water Conservation District and the United States Geological Survey, the discharger will not be responsible for omissions or errors in data supplied by Zone 7 and USGS.

FRED H. DIERKER
Executive Officer

Attachment:
Table I

TABLE I
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	E-1													
TYPE OF SAMPLE	G	C-8												
Flow Rate (mgd)														
BOD, 5-day, 20° C. or COD (mg/l & kg/day)		M												
Chlorine Residual & Dosage (mg/l & kg/day)														
Settleable Matter (ml/1-hr. & cu. ft./day)														
Total Suspended Matter (mg/l & kg/day)														
Oil & Grease (mg/l & kg/day)														
Coliform (Total) (MPN/100 ml)	W													
Fish Toxicity, 96-hr. TL ₅₀ % Survival in undiluted waste														
Ammonia Nitrogen (mg/l & kg/day)														
Nitrate Nitrogen (mg/l & kg/day)														
Nitrite Nitrogen (mg/l & kg/day)														
Total Organic Nitrogen (mg/l & kg/day)														
Total Phosphate (mg/l & kg/day)														
Turbidity (Jackson Turbidity Units)														
pH (units)														
Dissolved Oxygen (mg/l)	W													
Temperature (°C)														
Apparent Color (color units)														
Secchi Disc (inches)														
Sulfides (if DO ≤ 5.0 mg/l) Total & Dissolved (mg/l)	W													
Arsenic (mg/l & kg/day)														
Cadmium (mg/l & kg/day)														
Chromium, Total (mg/l & kg/day)														
Copper (mg/l & kg/day)														
Cyanide (mg/l & kg/day)														
Silver (mg/l & kg/day)														
Lead (mg/l & kg/day)														

TABLE I

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

SAMPLING STATION	E-1		E-2	G-1	G-2	G-3	G-4	L	P	R			
TYPE OF SAMPLE	G	C-8	G	G	G	G	G	O	O	O			
Flow Rate (mgd)	D		D										
Water level in well (feet)				2M	2M	2M	2M						
Dissolved Nitrogen as "N"		2/Y		-	-	-	-						
Dissolved Nitrate as "N" (mg/l)				2M	2M	2M	2M						
Dissolved Phosphorous (mg/l)		2/Y		2/Y	2/Y	2/Y	2/Y						
Dissolved Chloride (mg/l)		2M		2M	2M	2M	2M						
Dissolved Boron (mg/l)		2/Y		2/Y	2/Y	2/Y	2/Y						
Dissolved Fluoride (mg/l)		2/Y		2/Y	2/Y	2/Y	2/Y						
TOC(mg/l)				2/Y	2/Y	2/Y	2/Y						
Total Dissolved Solids (mg/l)		2/Y											
Dissolved Calcium (mg/l)		2/Y		2/Y	2/Y	2/Y	2/Y						
Dissolved Magnesium (mg/l)		2/Y		2/Y	2/Y	2/Y	2/Y						
Dissolved Sodium (mg/l)		2/Y		2/Y	2/Y	2/Y	2/Y						
Dissolved Potassium (mg/l)		2/Y		2/Y	2/Y	2/Y	2/Y						
Dissolved Silica (mg/l)		2/Y		2/Y	2/Y	2/Y	2/Y						
Dissolved Bicarbonate (mg/l)		2/Y		2/Y	2/Y	2/Y	2/Y						
Dissolved Sulfate (mg/l)		2/Y		2/Y	2/Y	2/Y	2/Y						
Total Coliform (MPN/100 ml)	W		W										
Electrical Conductivity (umho/cm)		2/Y		2M	2M	2M	2M						
pH	W	2/Y		2M	2M	2M	2M						
All Applicable Standard Observations				-	-			W	W	W			

LEGEND

C-8 = composite 8-hr sample

G = grab sample

D = daily

W = weekly

2W = every 2 weeks

2M = bimonthly

O = observation

Q = quarterly
2/Y = twice a year